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LONDON HYDROLOGY.

Old London's Spas, Baths, and Wells. By Dr. S. Sunderland. Pp. xii+169. (London: John Bale, Sons, and Danielsson, Ltd., 1915.) Price 7*s.* 6*d.* net.

A LARGE number of springs in London have been closed (in recent years) in order to protect the public from the risks of water-borne maladies. Some, like the famous Broad Street Pump, at the time of the cholera epidemic in 1854, have been proved to be the active distributors of disease. But it may be questioned whether in the wholesale closing of the London wells the innocent have not suffered with the guilty. It is sometimes forgotten that the change in water-supply generally signifies the substitution of *mixed* waters for the water of a single source. It is at least open to question whether, from the point of view of health, fresh drinking water from a single source is not to be preferred to mixed waters of whatever purity.

In this attractive book Dr. Sunderland states that in 1866 people in the City of London had access to thirty-five public pumps, all now closed. Many other districts of the great London basin, such as Clerkenwell, were rich in springs. All these particular sources have been abolished with drastic thoroughness in order to avoid the danger of possible contamination. In return, under a "Water Board," London enjoys the blessing so aptly described by an astonished visitor from a waterless country in the East as a "spring in every house." But now the Londoner drinks not water, but waters.

The present volume originated in the author's presidential address before the section of the Royal Society of Medicine which is concerned with the medical aspects of waters and climates. It gives the best account yet published of the springs of old London, especially of those—surprisingly numerous—which have been at various times medically employed. No fewer than thirty medicinal springs "of slight importance" in and near London are described, all of which were doubtless esteemed for curative properties by the people in their localities, whether for drinking or bathing. The chalybeate springs form everywhere the largest class of mineralised waters, and many of this kind in London were applied locally for their astringent properties, like the "Eye Waters" of Highgate and of the St. Anne's Well in Hyde Park. This popular recourse and attachment to waters for common ailments belongs, as we know, to all times and to all places, but in London it has been in our own day finally extinguished by the zeal of the sanitarian.

A wider importance attached to the old London spas—medicinal springs which from merit or accident acquired a considerable reputation in the town, and became in consequence, in varying degrees, fashionable health and pleasure resorts. The author traces the history and character of these spas, some of which were "spurious" and others "genuine" and medically valuable. He gives particulars of twenty situated north of the Thames, and eight of these were within a mile of King's Cross. It is interesting to note that one of these, the Islington Spa, was under Royal favour much frequented, as many as sixteen hundred persons drinking the water in one morning. Another notable northern spa was that of Hampstead. It took origin in the seventeenth century, and was a true health resort—offering a tonic water in a tonic air. Perhaps the chief among the spas of London, possessed of real medical value, Hampstead fell a victim to the great malady of health resorts—the unbridled appetite for pleasure. "It is reasonable to believe," says Dr. Sunderland, speaking of another London resort, "that the beneficial effect of the tonic water was counterbalanced by the feastings, just as in the present day some of the good effects of the British and foreign spas frequented by the richer classes are annulled by the high living at the magnificent hotels where some of the visitors stay."

South of the Thames there were thirteen spas, including Richmond, Epsom, and Shooter's Hill, which were really country health resorts. We are told that Streatham is the "only one of the old London spas where the waters can be drunk at the present day with beneficial effect." This mild medicinal water was formerly much frequented and esteemed by competent authority.

It is appropriate that this forgotten chapter in British hydrology should be recalled now. The brief but golden age of the London spas ceased with the rise of others further from the capital. Leamington, Cheltenham, Bath, Tunbridge Wells came into favour, and some of these in their turn have paled before the glories of more remote attractions. It is the old story of the lure of the unknown, of the "distant and the far." But conditions now are different. It must be remembered that an exact knowledge of the actions and uses of waters has only been made available in the present generation. Thanks to an accurate study

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of hydrological medicine, these natural remedial agents can now be prescribed with authority and precision, and presently it will be as foolish to go to the wrong spa as to choose an inappropriate drug or an improper operation in surgery.

For the necessary growth of this knowledge research and instruction must go hand in hand. At the present time, as Dr. Sunderland points out, the value of waters and baths scientifically applied is being abundantly proved in the case of sick and wounded soldiers. The results obtained at the British spas show how great and unexpected are the resources of our own country in this respect.

That which is wanting in British hydrology is system—both in scientific teaching and in co-ordinating the unrivalled assets belonging to the health resorts of the Empire. It remains for London to meet this need by providing the means of special instruction and research. Here as elsewhere in medicine the tradition and empiricism of the past must in due course give place to ordered knowledge and instructed art.

Dr. Sunderland's book is profusely illustrated and withal entertaining, and may be recommended to all who are interested in the social as well as the medical history of London.

ORGANIC CHEMISTRY.

Organic Chemistry, or Chemistry of the Carbon Compounds. By Victor von Richter. Volume i. *Chemistry of the Aliphatic Series.* Newly translated and revised from the German edition by Dr. P. E. Spielmann. Pp. xvi+719. (London: Kegan Paul and Co., Ltd., 1915.) Price 21*s.* net.

NO more striking illustration of the development of organic chemistry could be found than that presented by the growth of this popular German treatise. Appearing about 1880, as companion volume to a modest octavo text-book on inorganic chemistry, it rapidly acquired popularity and passed through numerous editions. As the contents swelled with each succeeding edition, it became necessary first to divide the book into two parts and finally to modify the format. Like many German scientific books it soon found an American translator and publisher, and has reached its third American edition. The present volume, it should be noted, is the first *English* edition, a term which we presume refers to the nationality of the publisher rather than to the greater purity of the vernacular of the last translator. Be that as it may, Richter's organic chemistry has passed out of the region of text-books.

The theoretical part is condensed into a comparatively few pages at the beginning of the volume, and is of so sketchy and superficial a character as to possess little value for the student. Yet the subject, especially on the physical side in connection with structural problems, is one of growing interest and importance. This is a cardinal defect. On the other hand, the book is so crowded with facts as to form a kind of abridged "Beilstein." It is divided into chapters containing the names of a large number of related compounds, an outline of the mode of their preparation, and an account of their more important physical and chemical properties. Occasionally there is a proper name attached to a compound or process, and sometimes a reference. It is rarely that one finds an English name, or, indeed, that of any other nationality than German. There is no reference to the modern method for preparing silicon alkyl compounds or to its author; no reference to the discoverer of oxalyl chloride, ketene, and the numerous azoimides, or to the mechanism of the formation of formic acid from glycerol and oxalic acid, though the process is given, or to the abnormal addition of bromine to maleic acid, which is wrongly described.

English names, it appears from the preface, are purposely omitted for the remarkable reason that "references to German literature have been retained with the object of preserving to the student the advantages of the origin of the book; the English references will be otherwise readily obtainable by him." If the references are not given, nor even the names of authors of these fundamental discoveries, it is difficult to see how they will be "readily obtainable." No doubt there are advantages in having the origin of the book steadily thrust upon one as a stimulus to the British chemist; but it is to be hoped that there may be forthcoming a text-book—a real students' text-book—of organic chemistry which shall give him a clear, critical, and suggestive review of the big problems of organic chemistry with which the names of many distinguished English chemists are linked. That the English organic chemist has pursued the experimental part of the subject with the object of elucidating theoretical rather than practical problems is readily explained by the fact that his activities on the industrial side have been necessarily restricted, and he has had little incentive up to the present to busy himself with the discovery of new classes of commercially useful products.

J. B. C.

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